CAPT MATH

Generation 1 Released Items
(1995-2000)

2000 Released Items

Angelo's Pizzeria

Use the information below to answer question 1.

Kristina and John agreed to meet 6 of their friends at *Angelo's Pizzeria* for lunch. This menu shows the pizzas and toppings Angelo sells.

ANGELO'S PIZZERIA		
CHEESE PIZZA	**TOPPINGS**	
	pepperoni, sausage, meatballs, mushrooms, extra cheese	onion, pepper
Medium (8 slices) – $5.50	$1.00 each	$0.50 each
Large (12 slices) – $7.50	$1.25 each	$0.75 each
SODA 10 oz. – $1.00 32 oz. pitcher – $2.50 ***Add 6% sales tax to all orders***		

1. Enough for Everyone

John thought that two large pizzas with all 7 toppings would be enough for everyone. If each of the 8 people contributed $5, would they have enough money to pay for the 2 pizzas and for 10 ounces of soda per person? Show the mathematics you used and explain your reasoning.

Angelo's Pizzeria (continued)

Use the information below to answer question 2.

2. Which Coupon?

Kristina has the two coupons shown. If the friends decide to buy two large pizzas with two toppings, which coupon will save them more money? Show the mathematics you used to determine your answer.

3. Was Kristina Correct?

Angelo also sells a mini-pizza which has a 6-inch diameter. The 8-slice medium pizza has a 12-inch diameter. Kristina told John that you get 4 times as much pizza when you order the medium pizza than when you order the mini-pizza. Was Kristina correct? Show the mathematics you used to explain why.

Calculating Calories

Problems 1-5 refer to this table that a group of friends found in a fitness book.

Calories Burned in 1 Hour					
		Weight in Pounds			
Activity	Speed in Miles per Hour	100	120	150	200
Sitting Quietly	0	57	69	86	114
Moderate Walking	3	162	194	243	324
Brisk Walking	4	234	281	351	468
Jogging	5.5	366	439	549	732
Running	7.5	564	677	864	1,128

1. How Many Calories?

Cal weighs 150 pounds. He plans to do one hour of brisk walking three times per week. How many more calories will he burn doing his brisk walk rather than just sitting quietly for these three hours? Show how you determined your answer.

2. Calories per Hour

Minh weighs 110 pounds. Use the chart in your answer booklet to estimate the number of calories she should expect to burn per hour for each of the three activities. Record your estimate in the table in your answer booklet.

3. Weekly Exercise Program

Minh's goal is to burn approximately 1,500 calories a week in an exercise program. Design a weekly exercise program for her that involves two different activities from question 2. Complete the table in your answer booklet.

4. Running Laps

Ben weighs 150 bounds. He went 13 laps around the school's ¼-mile track in 30 minutes. About how many calories did he burn? Explain how you calculated your answer.

5. Candy Bar

A candy bar contains about 290 calories. How long would a 175-pound person have to jog in order to burn the calories in the candy bar? Show the mathematics you used to determine your answer.

The Dart Booth

Use the information below to answer questions 1-4.

The dart board below is used at a local carnival. The player gets 3 darts for $1. All 3 darts must be used, and all 3 must hit a numbered square to count. A square may be hit more than once, but if a dart does not hit a numbered square, it must be thrown again.

The player wins a prize if the sum for the 3 darts is less than or equal to 5 (sum ≤5), or greater than or equal to 15 (sum ≥15).

Carnival Dart Board

6	3	4	1	5	2
4	5	3	2	3	6
1	4	2	4	1	4
3	6	3	5	2	4
2	4	4	3	3	1
5	1	3	6	4	3

1. Michelle's first dart was thrown without aiming and hit a numbered square. What is the probability (expressed as a decimal) that the square she hit was a "4"?

2. Each of Carla's first two darts hit a "6". To the nearest hundredth, what is the probability (expressed as a decimal) that her third dart would hit a square that would make her a winner?

3. Each of Sarah's first two darts hit a "2". To the nearest whole percent, what is the percent of numbered squares she could hit on her 3rd throw and win a prize?

4. Harold's first dart hit a "3" and his second dart hit a "4". What is the probability that his final dart will hit a number that produces a winning sum?

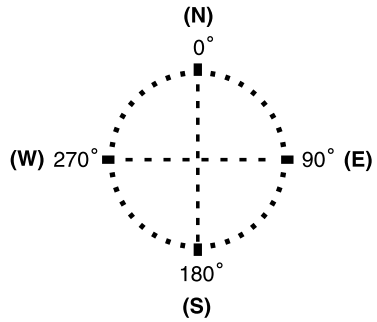
On Long Island Sound

Jamal is an apprentice on a boat on Long Island Sound. He is helping the captain collect samples of marine life for an environmental study, and the captain is teaching him about nautical navigation.

1. At one point, the depth chart showed the ocean depth was 13 fathoms, while the depth finder read 78 feet. Later, the depth finder indicated the depth was 135 feet. To the nearest tenth, how many fathoms should the chart show?

2. Distances traveled by boats and ships are usually measured in nautical miles. One nautical mile equals 6,076 feet. One land mile equals 5,280 feet. An island is located three nautical miles from the harbor. To the nearest tenth of a mile, how far is this in land miles?

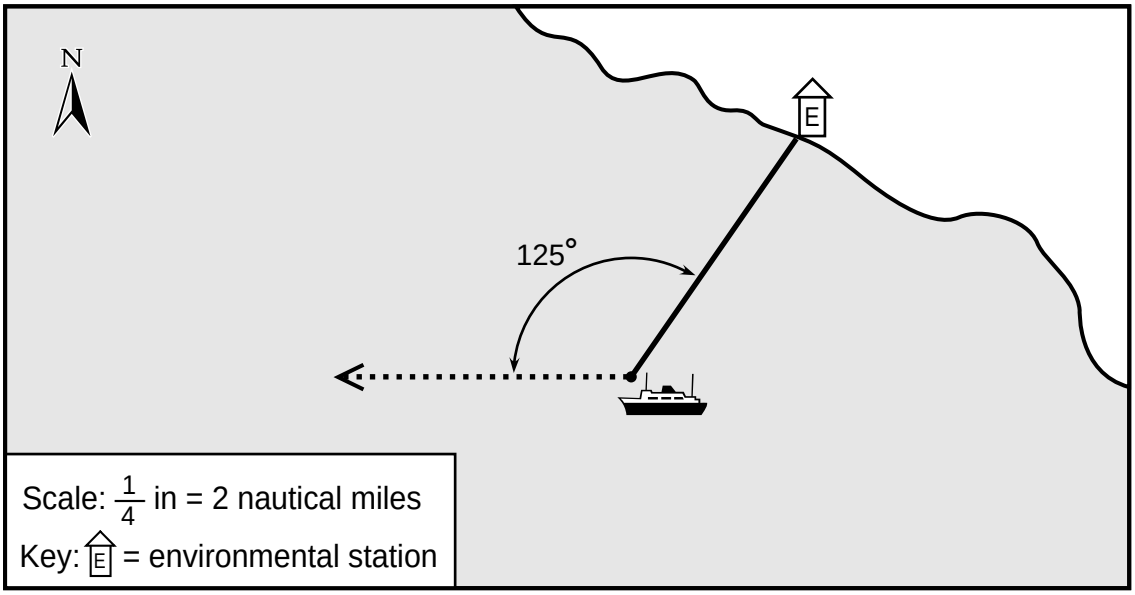
3. A compass rose is an instrument used to find bearings (directions) at sea. Notice that the degrees increase clockwise from 0° at the north.



The boat was traveling due east at a bearing of 90°. The captain turned left 120°. What was the boat's new bearing?

On Long Island Sound (continued)

The captain gave Jamal the map shown below. Use it to answer question 4.



4. Use your ruler and the scale to determine the distance from the boat's present location to the environmental station in nautical miles.

5. When the boat leaves the environmental station, it will return to its home port 9 nautical miles away. If the boat maintains a constant speed of 15 knots (nautical miles per hour), how many *minutes* will the trip take?